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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,676	09/15/2003	Kuo-Liang Lee	LEEK3004/EM	9147
23364	7590	02/04/2005	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			VU, PHUONG T	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 02/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. **6X**

10/661,676

Applicant(s)

LEE, KUO-LIANG

Examiner

Phuong T. Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004 & 29 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-11 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1, 3, 5, 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Goldman et al. (US 5,592,366). Regarding claim 1, the reference discloses an electronic apparatus with natural convection structure comprising a casing structure (unlabeled inner housing provided with circuit cards 14), said casing structure having a first hole (central of several hole shown which are provided in top surface of casing structure) passing through said casing structure from a top surface thereof to a bottom surface thereof, a first printed circuit board 14 vertically disposed adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole, and at least a supporting device (unlabeled guide which supports first printed circuit board) disposed on said bottom surface of said casing structure.

Regarding claim 3, the apparatus further comprises a second printed circuit board disposed adjacent to another side of said first hole in the casing structure and substantially parallel to said another side of said first hole.

Regarding claim 5, said supporting device has a specific height, and said specific height is substantially at 3 mm.

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Regarding claim 7, the distances from said first hole to the edges of said casing structure are substantially equal.

Regarding claim 8, said casing structure and said first hole are integrally formed.

Regarding claim 9, it appears that the vertical and horizontal cross-sections of said first holes are rectangular.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Goldman et al. (US 5,592,366). Alternatively, regarding claim 9, if it were arguable that the first hole was not rectangularly shaped, it would have been obvious that the vertical and horizontal cross-sections of said first hole are rectangular by forming a first hole with a non-rounded edge. It has been decided that that matters relating to ornamentation only which have no mechanical function cannot be relied upon to patentably distinguish the claimed invention from the prior art. In re Seid, 161 F.2d 229, 73 USPQ 431 (CCPA 1947).

5. Claims 1, 7, 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative under 35 U.S.C. 103(a) as being unpatentable over Holmes et al. (US 6,459,577 B1). Regarding claim 1, the reference discloses an electronic apparatus 10 with natural convection structure comprising a casing structure 12, said casing structure

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having a first hole 28 passing through said casing structure from a top surface thereof to a bottom surface thereof and at least a supporting device disposed on said bottom surface of said casing structure. The reference does not clearly show a first printed circuit board disposed adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole, however, the reference teaches that the apparatus is a computer which has a hard drive, microprocessor and heat sink. The apparatus necessarily would have a bus structure to support I/O functions, ROM, and RAM in order for the apparatus to function as intended. Furthermore, a printed circuit board must be provided upon which the microprocessor, bus, and such components would be mounted and electrically interfaced. The reference shows the microprocessor 20 mounted vertically and positioned adjacent one side of said first hole. Therefore the microprocessor, and necessarily its associated components provided on said printed circuit board appear to be generally provided at 20. The printed circuit board appears to be mounted vertically and positioned adjacent one side of said first hole. Alternatively, it would have been obvious to those skilled in the art at the time the invention was made to position the printed circuit board for supporting the microprocessor, wherein the printed circuit board is substantially parallel to said side of said first hole as this direction would best accommodate the printed circuit board and components mounted on the printed circuit board and would accommodate the largest possible printed circuit board in the housing.

Regarding claim 7, the distances from said first hole to the edges of said casing structure are substantially equal.

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Regarding claim 9, when one considers the hole adjacent hole 28 to be the first hole, the reference shows that the vertical and horizontal cross-sections of said first hole have a rounded rectangular shape.

Regarding claim 10, the apparatus necessarily comprises an input device selected from the group consisting of a plug, socket and a power cord to provide power to the apparatus for it to function as intended.

Regarding claim 11, the apparatus necessarily comprises an output device selected from the group consisting of a plug, socket, and a power cord to provide electrical interface to peripheral devices connected to the computer apparatus for the apparatus to function as intended.

6. Claims 2, 9 are rejected under 33 U.S.C. 103(a) as being unpatentable over Holmes et al. (US 6,459,577 B1). Regarding claim 2, the reference does not teach that the electronic apparatus is an external power supply for a notebook computer. However, it would have been obvious to those skilled in the art at the time the invention was made that the structure for natural convection taught by Holmes may be provided in other heat generating components such as external power supplies to provide efficient and effective cooling to the components.

Alternatively, regarding claim 9, it has been held that matters relating to only shape, which have no impact upon mechanical function, cannot be relied upon to patentably distinguish the claimed invention from the prior art. In re Seid, 161 F.2d 229, 73 USPQ 431 (CCPA 1947).

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7. Claim 6 is rejected under 33 U.S.C. 103(a) as being unpatentable over Holmes et al. (US 6,459,577 B1) in view of Lanclos (US 6,144,566). Regarding claim 6, Holmes does not show that the supporting device is extended outward a specific width from at least on side of said casing structure and said specific width is substantially at least 3 mm. However, Lanclos shows a supporting device 200 extending from a casing structure 50 and is relied upon solely for this teaching. It would have been obvious to provide a supporting device as taught by Lanclos in the housing of Holmes for providing a more stable support for the housing.

Allowable Subject Matter

8. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed November 30, 2004 and October 29, 2004 have been fully considered. Applicant's arguments with respect to the prior 102 rejections based on Bishop et al., Hutchinson et al., Lanclos, Lin are moot as these rejections have been withdrawn in view of Applicant's amendments. Applicant's arguments with respect to the 103 rejection based on Hutchinson are moot as this rejection has been withdrawn in view of Applicant's amendments. Applicant's arguments with respect to the 103 rejection based on Lanclos are moot as this rejection has been withdrawn in view of Applicant's amendments. Applicant's arguments with respect to the 103 rejection based

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on Lin are moot as this rejection has been withdrawn in view of Applicant's amendments.

Regarding the 103 rejection based on Holmes, Applicant states that Holmes does not teach, disclose, or suggest a structure that includes a first printed circuit board vertically disposed adjacent to one side of the first hole in the casing structure and substantially parallel to the side of the first hole as claimed. However, as noted in the above rejection, the reference does not clearly show a first printed circuit board disposed adjacent to one side of said first hole in the casing structure and substantially parallel to said side of said first hole, however, the reference teaches that the apparatus is a computer which has a hard drive, microprocessor and heat sink. As such, the computer apparatus necessarily requires a bus structure for I/O, ROM, and RAM in order for the apparatus to function as intended. Furthermore, a printed circuit board must be provided upon which the microprocessor, bus, and such components would be mounted and electrically interfaced. The reference shows the microprocessor 20 mounted vertically and positioned adjacent one side of said first hole. Therefore, it would appear that the microprocessor, and necessarily its associated components provided on said printed circuit board would be generally provided at 20. The printed circuit board appears to be mounted vertically and positioned adjacent one side of said first hole. Alternatively, it would have been obvious to those skilled in the art at the time the invention was made to position a printed circuit board, which supports a microprocessor and its associated components, substantially parallel to said side of said first hole as this direction would best accommodate the printed circuit board and

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components mounted on the printed circuit board and would accommodate the largest possible printed circuit board in the housing.

Therefore, it is believed that the claim limitations have been met by the references.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Vu whose telephone number is (571) 272-2111. The examiner can normally be reached on Mon. & Tues., 7:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Phuong T. Vu', with a long horizontal stroke extending to the right.

Phuong T. Vu
Patent Examiner
Group 2841